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The 2002 Malawi Famine

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Executive Summary

Famine has been described as "a catastrophic disruption of the social, economic, and institutional systems that provide for food production, distribution, and consumption" (von Braun et al. 1998). Famines have occurred in every part of the world throughout history, and the 21st century is no exception. Millions of people, mainly in Africa, still suffer food shortages and occasionally face famine. Famine can occur not only when insufficient food is available, but also when people do not have adequate "entitlements" to access food (Sen 1981).

From its independence in 1964 through the 1980s, Malawi was a self-sufficient producer of maize in nondrought years (Oygard et al. 2003). Since 2001, however, Malawi has depended on commercial imports and food aid to meet its national needs. Although the 1991/1992 harvest was half the size of the 2000/2001 maize harvest, no food crisis occurred in 1992. To understand what caused changes in national food sovereignty and household food security between 1991 and 2001 and the events of the 2002 famine in Malawi, this case study reviews the decisions, events, and policies before, during, and after the 2002 famine from four angles: availability of food, access to food, underlying poverty, and political and institutional issues.

The availability of food was affected by flooding, transportation bottlenecks, the sale of the government's reserve grains in 2001, and poor crop estimates. Access to food was restricted for some because grain did not reach the most rural areas, and prices soared, making white maize, the staple food, too expensive for many to buy. Underlying poverty was also a factor: 65 percent of Malawians live below the poverty line, HIV/AIDS levels are climbing, and purchasing power dropped in the 1990s, making many people more vulnerable to production shocks and overcoming their coping strategies. Finally, political and institutional issues, such as liberalization of the grain parastatal, the absence of safety nets, and strained relations between the government of Malawi and donors, contributed to the famine.

This case study evaluates the best strategies to pursue national food sovereignty and household food security and analyzes policies that can prevent famine while meeting longer-term development needs—an effort that is necessary to prevent future famines and decrease poverty. It also explores how food availability and access can be assured for remote regions and the poorest citizens and considers whether government interventions or free markets offer the best approach to achieving short- and long-term national food sovereignty and household food security.

Your assignment is to assess the effectiveness of the actions taken by the government of Malawi in 2002, identify policy failures and successes, and suggest actions and policy measures that should be put in place by the government, food aid donors, and the private sector to effectively prevent future famines while striving for long-term national food sovereignty and household food security.[1]

Background

Between 2001 and 2006, six countries in Southern Africa—Lesotho, Malawi, Mozambique, Swaziland, Zambia, and Zimbabwe—each contended with food shortages. In 2002 food shortage led to famine in Malawi, its worst disaster since the Nyasaland famine of 1949 (Devereux 2002). Malawi was the only country out of the six to report deaths caused by hunger.

Malawi is a landlocked country of about 12 million people in Southern Africa. It borders Zambia, Tanzania, and Mozambique and is almost the size of Pennsylvania (CIA 2006). The population grows at 2 percent annually, average life expectancy is 41 years and declining, and the infant mortality rate is 103 deaths per 1,000 live births. The literacy rate is 62.7 percent, and 65 percent of Malawians live below the poverty line (Oygard et al. 2003). HIV/AIDS, with a prevalence of 14.2 percent among the adult population, is the cause of

[1]National food sovereignty exists when a country has the means to acquire enough food, whether from national production or imports, to achieve household food security. Household food security "exists when all people of a household, at all times, have access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (FAO 2007).

declining life expectancy. Per capita gross domestic product (GDP) is US$600, and overall GDP is US$7.692 billion. Although real per capita GDP rose throughout the 1990s, the level of poverty increased (Oygard et al. 2003).

Malawi is generally divided into three regions—northern, central, and southern. The northern region consists of highlands and is less populated than the southern region, which contains the country's highest population density (Malawi National Vulnerability Assessment Committee 2005). The central region, which contains the capital, Lilongwe, has a mix of rural and urban residents and contains most of the country's poor (Sahley et al. 2005). The flooding and the famine deaths both occurred in the south and central regions.

Agriculture is the foundation of employment and the economy. More than one-third of GDP comes from agriculture, and an additional one-fifth of GDP is related to distribution and retailing of agricultural products. Eighty-five percent of the population lives in rural areas, and 75 percent of the population relies on agriculture for their livelihoods (Oygard et al. 2003). Landholding is split between smallholders, who typically own 0.23 hectare, and large estate owners who grow tea, cotton, sugar, and burley tobacco for export. Agricultural exports account for 90 percent of foreign exchange earnings (Oygard et al. 2003).

Although the majority of citizens grow and consume white maize almost exclusively, most rural Malawian households are net purchasers of maize (Sahley et al. 2005). About one-third of the population is perpetually unable to produce enough food to feed their families for a year and must seek other sources of income to purchase food. Seventy percent of the average Malawian's diet consists of white maize (FAO 2006). Farmers produce one rainfed crop of maize a year. Planting takes place in November/December, and crops are harvested the following April/May. The months before the harvest are called the "lean season" because this is when households run out of the previous year's grain and need to purchase grain on the market. This season is also when maize prices typically peak because the previous year's stocks are running low and less maize is being sold on the market.

Events of the Famine

In his 1981 essay "Poverty and Famines: An Essay on Entitlement and Deprivation," Nobel prize–winning economist Amartya Sen redefined famine as a lack of "entitlements," not necessarily a lack of food. In his entitlement theory, Sen explains that a person can starve not only when he or she cannot produce enough food, but also when he or she does not have the means to exchange labor, money, or other goods for food, or when he or she faces a combination of these circumstances (Sen 1981). With this theory in mind, this case study considers the 2002 Malawi famine from four angles—availability of food, access to food, underlying poverty, and political and institutional issues.

Availability of Food

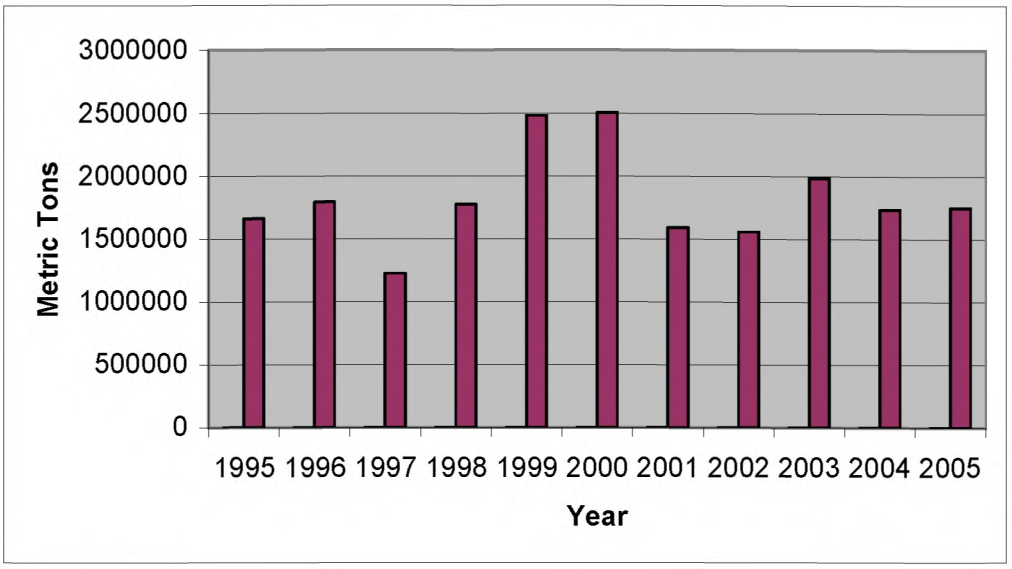
Malawi experienced good harvests in 1998/1999 and 1999/2000, but the 2000/2001 maize harvest was 8 percent below the 10-year average (Figure 1).[2] The four main factors that led to reduced food availability for some Malawian populations in 2002 were poor maize production in 2000/2001, transport bottlenecks for imported food, poor estimates of alternative food levels, and reduced maize levels in the Strategic Grain Reserve (SGR).

Poor Maize Production. From independence in 1964 through the 1980s, Malawi was a self-sufficient producer of maize in nondrought years (Oygard et al. 2003). In the 1990s, however, maize yields fell owing to declining soil fertility. Maize is grown on the same fields year after year with minimal organic or inorganic fertilizer, which causes soils to be stripped of their nutrients and, eventually, degraded. In February 2001 13 out of Malawi's 27 districts experienced serious flooding, which was also a factor in the decrease in production (Oygard et al. 2003).

Another factor leading to poor maize production was the fact that farmers reduced the amount of inputs they used because of lack of access to credit, liberalization of the input market, and reduction of government subsidies on fertilizers and seeds. A program called the Starter Pack Program (later called the Targeted Inputs Program or

[2] Agricultural years are typically written as "1998/1999," because the planting season begins in the third quarter of the first year, but the crop is not harvested until the second quarter of the following year.

Figure 1: Malawi Maize Production, 1995–2005



Source: FAO 2006.

TIP) was initiated in 1998/1999, with distribution to 2.8 million households. "Starter packs" were allocated at no charge to farmers and contained enough chemical fertilizer and maize and pulse seed to cultivate 0.1 hectare (Rubey 2003). The program aimed to provide farmers with free inputs to ease the effects of reduced fertilizer subsidies, combat soil degradation, increase yields, diversify planting with improved varieties, and lead to overall food security (Oygard et al. 2003). Owing to donor concerns about the sustainability of the program, it was downsized, and by 2001 only 1 million households received these packs.

Low yields contributed to grain shortages as well. The area planted in maize in Malawi is between 1.3 and 1.5 million hectares. Yields are about 1,000 kilograms (kg) per hectare, meaning that between 1.3 and 1.5 million metric tons are produced each year. This production falls short of the estimated 1.7 million metric tons needed for national consumption and results in chronic deficits (Devereux 2002).

Transportation Bottlenecks. Because Malawi is a landlocked country, all food imports must be brought in by truck or train, and this situation delayed the arrival of maize imports in 2002. The railway line between Mozambique and Malawi was damaged by floods, and a train derailment on the South African–Zimbabwe border disturbed train traffic for several weeks. Secondary and tertiary roads in Malawi were also damaged by floods and slowed the distribution of food to rural areas (Devereux 2002).

Poor Estimates of Grain Production. Reliable statistics on national agricultural production are necessary so that the government, donors, and the private sector can make sound decisions about importing, buying, and selling grain. The Malawi Ministry of Agriculture and Irrigation (MAI) and the Famine Early Warning System Network (FEWS NET) funded by the U.S. Agency for International Development (USAID) both release figures on production of grains and roots. After the flood in February 2001, FEWS NET and the MAI revised their maize crop estimates, showing a decrease in yields from the year before. In July 2001 FEWS NET predicted that Malawi would have a food surplus owing to high cassava and sweet potato production, which would compensate for the loss of maize due to the floods (Oygard et al. 2003). This prediction proved to be inaccurate and caused a critical delay in the government's and donors' reaction to the crisis (Devereux 2003).

Reduced National Reserves. The National Food Reserve Agency (NFRA) is responsible for stocking grain and protecting Malawians against fluctuations

in food production, availability, and prices (Sahley et al. 2005). Since 1999 the NFRA has been an independent trust that runs the SGR on a cost-recovery basis. For three years before 2001, official maize stocks were high, but the NFRA accrued millions of dollars in loans to buy and store this maize and was losing money by holding these stocks. Storage of grain is costly, and losses from spoilage are high. The International Monetary Fund (IMF) recommended that the NFRA sell about 60% of the grain from the SGR to repay some of its loans and hold a smaller reserve so that the large stockpile did not distort market prices (Devereux, 2002). In addition, the IMF recommended that instead of dumping this excess grain on local markets and altering local prices, the NFRA sell its grain internationally. The NFRA followed this advice only partially. Instead of selling half of the reserves, it sold almost all of them, on both domestic and international markets. In July/August 2000, the SGR held 175,000 metric tons, but by mid-2001 virtually all of its stocks had been sold (Sahley et al. 2005).

Access to Food

According to Sen's entitlement theory, famine occurs when people do not have access to food or the means to buy it. The main problems behind the inaccessibility of food in 2002 were poor distribution, high food prices, and low purchasing power, which put maize out of reach for poorer Malawians.

Purchasing power for Malawians dropped in the 1990s, partly because of the devaluation of the Malawi kwacha (MK), which increased domestic prices of imports and led to higher prices for agricultural outputs, higher food prices, and higher unemployment. Even though most rural Malawian households are maize producers, they are net purchasers of maize, because the amount they grow does not meet their household's needs (Sahley et al. 2005). In most years maize prices are lowest after the harvest in June/July and rise about 50–100 percent through December. In December–February prices can spike even higher. Between May 2001 and January 2002, maize prices rose by 450 percent (Oygard et al. 2003). When people could afford to, they bought maize in a panic, driving up prices even more. Poor Malawians who could not afford to buy maize when their own supplies ran out were forced to sell assets, including livestock, to buy food. Table 1 shows the falling relative value of livestock between February 2001 and February 2002, which was one of the most critical months of the famine.

ADMARC. The Agricultural Development Marketing Corporation (ADMARC), Malawi's agricultural marketing parastatal, was established after World War II and historically held a monopoly on selling inputs like fertilizer, seeds, and farm implements to Malawians. In addition, ADMARC was the sole buyer and seller of maize. Prices were set jointly by the Ministry of Agriculture and the Ministry of Finance. In the 1970s and 1980s, ADMARC (and African parastatals in general) came under fire for being "corrupt, rent seeking and subsidizing industry or cheap prices for urban consumers, while not paying farmers based on the actual production costs" (Bates 1981, as cited in Sahley et al. 2005, 46). In 1987, based on pressure from the World Bank and IMF, the government of Malawi allowed private traders to sell maize, ending ADMARC's monopoly.

Table 1: Livestock Prices, Mchinji District, 2001–2002

Type of Livestock	Price in February 2001 (MK)	Price in February 2002 (MK)
Chickens	90–150	25–70
Goats	500–1,000	150–500
Pigs	900–1,800	300–1,000
Cattle	6,000–15,000	1,500–4,000

Source: Kamowa 2002.

ADMARC is still in a transition from having central control over the maize market to operating within a liberalized, free market system. In 2002 ADMARC retained about a 10 percent market share, but it has more influence in the grain market owing to its historic role (Devereux 2002). In 2001 the government was forced to take on loans owed by ADMARC and the NFRA, making up about 2.75 percent of GDP (World Bank 2003). ADMARC decided not to buy maize from farmers during the 2000/2001 season, because there had been a bumper harvest in 1999/2000 and market supplies had been high. In 2001, when the government realized that the initial reports of maize and root production were inaccurate and that the SGR was low, ADMARC announced that it would intervene and purchase maize from domestic and international sources to resell it to those who needed to buy maize. By the time ADMARC made this decision, however, it had a difficult time locating maize for purchase, and it was forced to buy maize regionally at a higher price and ration the quantity sold to citizens. It also faced transport problems (Devereux 2002).

ADMARC also influences access to food by setting a standard market price for maize. In 2001/2002 ADMARC set a price of 17MK/kg for maize. This price was said to be too low to attract the private sector to enter the market, leaving ADMARC to act as the sole importer of maize. Additionally, government signals were unclear, and private traders were not sure when or if ADMARC was going to import grain and sell it at a subsidized rate, cutting the private traders' potential profits. The coexistence of this public distribution channel alongside a free market created confusion between private grain traders and the government.

Urban Bias. Food access was most problematic for rural Malawians, because much of the imported maize remained in urban centers. Urban communities have larger markets and higher purchasing power than smaller rural communities. In addition, poor roads caused transportation problems, and the low price of maize set by ADMARC discouraged traders from transporting it to remote areas (Devereux 2002).

Because Malawi is a landlocked country, it contends with large differences between export and import parity prices. When grain is imported into Malawi, the price it is eventually sold for in Malawian markets reflects the original cost of the product at port, plus the cost of transport into Malawi, making maize more expensive for Malawians than for people in neighboring coastal countries. When grain leaves Malawi, the price that export traders (only ADMARC in this case) pay sellers is lower than in coastal countries, because they must allow for transport expenses to get it to port. "Import parity prices in inland Southern Africa are double or more the local cost of delivery," according to Wiggins (2005, 15). This price differential translates to lower prices paid to farmers for their produce and higher prices charged for imported produce, making food access an even greater obstacle.

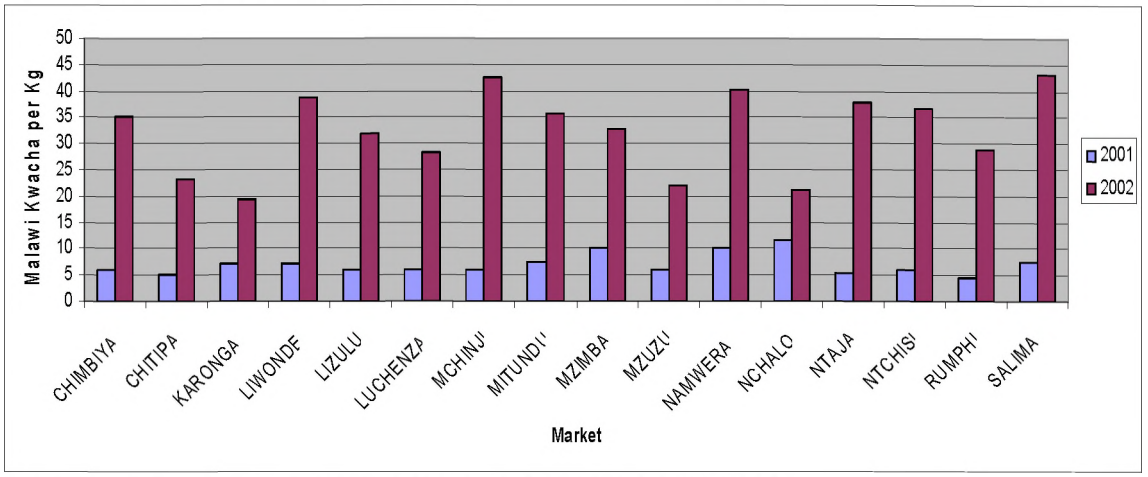
Underlying Poverty and Vulnerability

In 1991/1992 Malawi experienced a drought that reduced maize production to 657,000 metric tons, less than half of the 1,589,440 metric tons produced in the 2000/2001 harvest (FAO 2006). Yet there were no hunger-related deaths in 1992. What changed between 1991/1992 and 2001/2002 to make households less able to cope with production shocks and cause a famine in 2002?

Between 1996 and 2001, the poverty rate rose from 60 to 65 percent (Bookstein and Lawson 2002). Some of the factors that contributed to the vulnerability of the population were high HIV/AIDS rates, low education rates, declining agricultural productivity and soil fertility, limited off-farm income-generating activities, low rural wages, restricted access to agricultural inputs in the 1990s due to economic liberalization, maize production levels that failed to keep pace with population growth, and a decline in purchasing power.

A large share of the population experienced a decrease in income. In the central region of Malawi, more than 40 percent of farmers grow tobacco, but in the northern and southern regions, less than 20 percent do (PMS 2000). Smallholder revenues from tobacco, the primary export earner, dropped nearly 50 percent from 2001 to 2003. This decline was blamed on excess production growth over demand growth and decreased quality of tobacco due to new and marginal growers who entered the market (FAO 2003). Additionally, off-farm labor opportunities decreased in urban areas, neighboring countries, and tobacco farms (Rubey 2003). One

Figure 2: Comparison of Local Market Maize Prices, February 2001 and February 2002



Sources: 2001 data estimated from FEWS NET 2002; 2002 data from ReliefWeb 2003.

source of income that Malawians had relied on was remittances from mines in South Africa, Zambia, and Zimbabwe. Until the early 1990s, these remittances provided mostly southern Malawians with money for household goods, agricultural inputs, and investments in livestock. The loss of these mining opportunities affected not only the families who relied on remittances, but also the people employed by these families, who, with this added income, could afford to pay hired *ganyu*, or paid agricultural labor, as well (Wiggins 2005). Farmers rely on *ganyu* to supplement their incomes for purchasing household food, and it is critical for household food security. The average rate paid for *ganyu* labor is MK 20/day.[3] At the time of the famine, food prices in some areas were as high as MK 40/kg of maize (Devereux 2002).

The HIV/AIDS rate is 14.2 percent for adults. The epidemic exacerbates poverty, because AIDS-affected households have fewer adults contributing to productive activities and more time is allocated to "nonhousehold" management activities. Increasing numbers of sick family members, orphans, and foster children add more pressure to already stretched resources of social networks (Oygard et al. 2003).

Finally, availability of land has become a constraint, especially in the more heavily populated southern region. Given that more than half of a household's income is derived from food produced by the household, land pressure can have serious implications for food security (Sahley et al. 2005).

Political and Institutional Issues

The final set of factors leading to the famine was political and institutional. The government of Malawi was blamed for not ensuring entitlements to its citizens by being slow to react to the crisis and not having a contingency plan or an effective and timely safety net.

In addition, donor-government relations were strained at a critical time owing to corruption allegations, which caused some donors to pull out of the country and led to a delay in responding to the crisis. In November 2001 several major development donors, including Denmark, the European Union (EU), the United Kingdom, and the United States, all suspended aid operations. Donors claimed that they were unaware of the severity of the crisis until it was too late. They said they did not know about the sale of the SGR grain, they believed that ADMARC's commercial imports would cover the gap in food needs, and they were unaware that the roots and tubers production estimates were inflated and inaccurate. Owing to mistrust of the government, donors insisted on trying to confirm reports of food shortages before acting (Devereux 2002). Finally, it appeared contradictory to donors that they were asked for food aid in the same year that the SGR exported large amounts of grain. This

[3] In January 2002, MK 1 = US$0.016 or US$1 = MK 64.33.

situation supported donors' suspicions that there was mismanagement and corruption in the government, making it an unreliable partner.

Effects on Households

It was reported that between late 2001 and mid-2002, as many as 3,000 people died from hunger (Devereux 2002). Toward the end of 2001, households resorted to eating low-quality foods, such a maize husks, roots, and sawdust to survive (Wiggins 2005). Rationing, which takes place in normal years during the lean season, went further in 2002, as some families were forced to eat one meal every four days. Some families could not farm because they were too weak or needed to look for food elsewhere. School attendance dropped in affected areas. Deteriorating malnutrition rates and heightened susceptibility to disease became a problem, and cholera caused thousands of deaths at the same time as the famine, because many people were malnourished and weak. Mortality peaked in February–March 2002 (Devereux 2002).

Stakeholders

The stakeholders in this case include the government of Malawi, international nongovernmental organizations (NGOs), international donors, private grain traders, and the farmers and citizens of Malawi. The government is composed of numerous administrative offices and ministries, of which the most influential in this case are ADMARC, the NFRA, and the Ministry of Agriculture and Irrigation (MAI). The MAI influences the production of grain, and ADMARC and the SGR manage that grain once produced. They also control and influence certain sectors of the agricultural input and output markets. The overall goal of the government of Malawi is to provide food security for its citizens, but it must figure out the best way to do that, including how much, if any, government intervention is needed. Private grain traders are eager to enter the grain market and are monitoring the government to see where, how, and if they can enter the grain trade as ADMARC pulls out.

International NGOs and donors had a large impact on the Malawian government in the months leading up to and during the relief and recovery stages of the famine. Although the IMF's influence on the sale of the SGR grain proved to be controversial, the government still relies on external funding from the World Bank, the IMF, and individual donor countries for many of its operations. Maintaining relations with these donors is therefore necessary for essential programs related to food security.

Finally, Malawian civil society, including farmers and citizens, is a key stakeholder. It is the food security (or insecurity) of these people that is critical for the functioning of the Malawian state. Since 90 percent of the population lives in rural areas, farmers are scattered, and many live far from urban centers, where decision makers reside. This dispersion limits rural people's influence on policy making. But given that more than one-third of Malawi's GDP came from agriculture in 2005 (CIA 2006), farmers' needs cannot be ignored.

Policy Issues and Options

The government of Malawi has said it is committed to ensuring food security (Sahley et al. 2005). With its restricted resources, however, the government is currently not capable of providing either national food sovereignty or household food security. Therefore, adopting policies that ensure availability of food and entitlements to access food is the government's most reasonable option. An appropriate policy package should contain a balance of long- and short-term measures that help people through and out of a crisis toward long-term development objectives. According to the International Food Policy Research Institute (IFPRI), longer-term planning can be achieved when relief, recovery, and development projects are "combined and sequenced with each other in mutually reinforcing ways..." (IFPRI 2002, 5).

The following sections and Box 1 present multiple policy issues and options that address the problems of food availability, food accessibility, underlying poverty, and institutional dilemmas. These policies often have overlapping impacts—for example, policies aimed at improving food availability might also lead to poverty reduction. Conversely, the multiple effects of these policy decisions can cause unintended consequences for different social groups or other policy outcomes. This section analyzes policy options on a continuum of short- to longer-term options.

Box 1: Policy Issues and Options by Category

Availability of Food

1 Liberalization of the market (ADMARC versus the private sector)
2 Strategic Grain Reserve
3 Targeted Inputs Program
4 Regional maize trade
5 Crop diversification

Access to Food

1 Liberalization of the market (ADMARC versus the private sector)
2 Price stability
3 Rural infrastructure
4 Trade; growing of cash crops for income

Underlying Poverty

1 Socioeconomic development (education, health projects, off-farm employment)
2 Access to credit
3 Trade; growing of cash crops for income
4 Long-term agricultural development
5 Safety nets

Institutional Issues

1 Disaster planning and preparedness
2 Safety nets
3 Government transparency
4 Cooperation among stakeholders

Shorter-Term Food Security Strategies

Disaster Contingency Planning, Humanitarian Assistance, and Safety Nets. A country must declare a state of emergency in order to obtain international humanitarian assistance. Malawi did not officially recognize the food shortage or declare a state of emergency until late February 2002 (Devereux 2002). Until then, there was no disaster management plan at the state or regional level (Mano et al. 2003). Soon after the president's declaration, the World Food Programme (WFP) launched an Emergency Operation (EMOP) to feed 300,000 people (WFP 2007).

The WFP donated emergency food aid to Malawi beginning in 2002 and continued to operate relief and recovery food aid programs through January 2007,[4] was distributed through a consortium of international and local NGOs. Other major donors included the UK Department for International Development (DFID), the EU, and USAID. Short-term food aid helps avoid immediate hunger and suffering, but long-term food aid can cause disincentives to farmers and markets. Many donors and development practitioners are concerned that a country and its food-insecure populations can become too dependent on food aid. In 2005, three years after the 2002 famine, it was estimated that the WFP was supplying food to 11 percent of Malawi's population (Sahley et al. 2005).

[4]In January 2007 the WFP continued non-emergency activities targeting food distribution to persons with HIV/AIDS and tuberculosis, mother and child health clinics, programs for orphans and other vulnerable children, food-for-work projects, and school-feeding activities.

Since 2002 Malawi has formed various task forces and groups, including Vulnerability Assessment Committees and the Joint Task Force (JTF) to coordinate the humanitarian response for Malawi. Another means of preparing for food shortage is creating more reliable information systems that compile local and regional crop estimates and market prices. Mali, for example, has invested in a strong agricultural market information system.

To mitigate potential food crises, the Malian government disseminates market information to partners and private traders (Council on Foreign Relations 2005).

Even though the SGR, ADMARC, and TIP are often considered safety nets, they proved unreliable in 2002. Policies need to create effective safety nets for food-insecure Malawians in the context of both rural and urban populations and limited government resources. Programs such as local public works and food-for-work programs that exchange work for food or income to buy food are options. The advantages of such programs are that they are relatively quick to establish, can be targeted to the poor, do not undermine development efforts, and do not distort market prices (Council on Foreign Relations 2005).

Strategic Grain Reserve. The SGR is perceived as a way to ensure food security in times of food shortages or when supply cannot be obtained though other reliable channels. Questions of management, functioning, and financing, however, make the SGR an uncertain safety net during a food shortage. In the 2002 famine, there was not enough grain left in the SGR to provide a safety net to needy citizens. Additionally, grain storage is expensive, and spoilage leads to large losses. Storing grain for two to three years can double the real cost of stored grains (Wiggins 2005).

Preserving large grain reserves can be a disincentive to private traders. Uncertainty about when grain will be sold or if it will be subsidized by the government has been shown to prevent private traders from storing grain (Oygard et al. 2003). If private traders were assured of their role in the market and had a better market information system, they could be responsible for importing maize when needed. It is even argued that if there were no SGR or if the private sector were stronger, millers and farmers would have more incentive to store grain and possibly even make the SGR obsolete. Alternatives to storing grain are holding foreign currency reserves for buying grain, creating a strong system of preparedness for food shortages, and using futures markets (Mano et al. 2003).

Should the government of Malawi keep the grain reserve or get rid of it? Is it justifiable to use the SGR as a safety net? If retained, how can the SGR be made more efficient? Should it continue to be subsidized? How could the government ensure honest accounting mechanisms and a system of checks and balances?

Targeted Inputs Program (TIP). TIP has been criticized as too costly, and its cost was the primary reason it was scaled back in 2000/2001. TIP is funded mainly by external donors because the public sector is facing other budget priorities, such as education and health. Some donors argue that free or subsidized input programs may have hampered the development of efficient input supply services because they interfere with incentives for private sector investment. Also, logistical, financial, and management delays in public programs caused the input packs to arrive late to farmers and incorrect products to be distributed to certain regions, which reduced the economic returns from these inputs (Oygard et al. 2003). The fact that funding for the TIP comes from donors raises questions of stability and sustainability.

The government has argued for maintaining TIP because it believes that increased yields are necessary for obtaining household food security. After fertilizer subsidies were removed, fertilizer use declined, and so did yields. Because the input packs have the potential to increase yields by 100–150 kg per hectare, they could increase household food security (Oygard et al. 2003). Finally, proponents argue that it is cheaper to distribute packs than to distribute food aid.

Free-input programs can improve food security by raising crop yields in the short term, but they can simultaneously inhibit long-term private market growth in the input sector. Should the government and donors continue to fund expensive input programs? Do the benefits outweigh the costs? Is TIP serving as a social safety net whose elimination would harm farmers? What kind of exit strategy for the input program is reasonable, and how can

farmers be provided with access to fertilizer and improved seed varieties after the program?

Fertilizer Subsidies. In light of the high prices of inputs, Malawi's declining soil fertility, and farmers' weak purchasing capability, another option for making inputs more available to farmers is fertilizer subsidies. Such subsidies would benefit fertilizer suppliers and farmers who would otherwise not have access to fertilizers. "Fertilizer transfers are no longer viewed as an effective livelihood development strategy. It has instead become a critical part of the national safety net. The population is united in support of a fertilizer subsidy" (Sahley et al. 2005, 41).

Reducing fertilizer subsidies was part of a structural adjustment program, but it proved unpopular, so the president at the time defied the conditions imposed by the IMF and World Bank and maintained fertilizer subsidies. Untargeted subsidy programs like this one, however, are costly, have a less direct impact on poor households than targeted ones do, and limit private sector participation. Some experts have argued that in the long run, investments in infrastructure and agricultural research to increase productivity have a stronger effect on the cost of inputs than subsidies do.

Market Liberalization. Except for the government's intervention in maize (through ADMARC) and fertilizer and seeds (through TIP), Malawi's agricultural market has been liberalized. Because ADMARC is only partially privatized, however, "Malawi is suffering all of the instability of the market but reaping none of the benefits" (Rubey 2003, 3). A chicken-and-egg scenario is being played out by the private sector and the government. The government is reluctant to fully privatize the parastatal until it knows that the private sector has the infrastructure and capacity to respond to demand. Government officials fear that if the private sector is given complete control of the market, prices will be volatile and will increase and there will be a lack of maize in parts of the country at critical times of the year (Oygard et al. 2003). Obviously, the government does not want to risk a shortage of staple foods, so in 2001/2002 it chose to intervene, resulting in a budget deficit and high interest rates (RATES 2003). On the other hand, the private sector is unwilling to invest heavily in storage facilities, trucks, or marketing as long as the parastatal exists and creates an uncertain environment for the traders.

ADMARC's policies not only affect private sector traders, but can also impact household production, purchasing, and consumption patterns. For example, if the price of grain is set below the market equilibrium price, households might shift from eating other staples like cassava to eating maize, or they might be less motivated to plant or store maize. If the price is too high, however, it would exclude some consumers from the market.

Research has shown that countries in Southern Africa with relatively open markets are better able to fill food gaps than countries where the government is directly involved or restricts private sector trade (Mano et al. 2003). The years after the 2002 famine in Malawi support this theory. In 2003 the private sector imported as much as 200,000 MT of maize, about 80 percent of the amount the government imported that year (Mano et al. 2003). Thus, with the proper incentives (or lack of disincentives), the private market can be quite active in importing grain.

If the government fully liberalizes the market, it will be difficult to guarantee that people in the most remote areas will have access to food, given that incentives are low for the private sector to invest in areas where transport costs are high, surpluses are small, and purchasing ability is low. What role, if any, can ADMARC play in a fully or partially liberalized market situation? What policies could the government pursue to promote the private sector's diffusion into poorer, rural areas?

Longer-Term Food Security and Development Strategies

Self-sufficiency versus commercial crops. Various strategies are proposed for achieving national food sovereignty and household food security. Some policy makers want to strive for national food sovereignty by achieving self-sufficiency in cereals, given that Malawi is a landlocked country in a politically unstable part of the world. Self-sufficiency in maize would mean improving maize production and diversifying food crops by, for instance, increasing production of cassava, sweet potatoes, or potatoes. It costs three to four times more to import maize than to produce it, so self-sufficiency could be an economically viable option (Devereux 2002).

Other policy makers support market-based solutions or trade to ensure food access and availability. One option for achieving both national food sovereignty and household food security is to expand the production of cash crops, like burley tobacco, cotton, sugar, and tea, for regional or international trade. This approach would increase incomes and allow people to buy more food, since rural households typically spend 80 percent of their income on food (Sahley et al. 2005). To be successful, however, farmers need technical knowledge about growing these crops, input and output markets for these crops, and infrastructure that could facilitate these markets. Remote areas of the country have not attracted private traders to replace ADMARC's closed markets, leaving some populations with no agricultural input or export market. Poor infrastructure contributed to private traders' reluctance to enter these rural markets (RATES 2003). Another complication is that if small farmers believe growing cash crops will earn a higher income than staple food crops, they may not plant staple crops, which could lead to further food shortages (IFPRI 2002).

Since household incomes, foreign exchange earnings, and the majority of jobs in Malawi all rely on agriculture, and given that most farmers are net food buyers, policy options that seek to improve household food security and stimulate the economy should promote increases in agricultural productivity (PMS 2000). In the past donor programs and government policy focused on increasing productivity of smallholders, who produce 90 percent of Malawi's maize (Oygard et al. 2003). Improving poor farmers' access to technology that could reduce their costs and increase their yields could lead to better household food security. Achieving this would require a long-term investment in agricultural research. Other policy options include promoting on-farm crop diversification (for consumption or export), creating farmer organizations, and strengthening rural institutions.

Trade. Policies that encourage trade can also help ensure access to and availability of maize. Currently, however, food aid causes market distortions and, as mentioned earlier, private sector investment is lacking. As a result, some people ask if trade makes sense for a landlocked country in a food-insecure region of the world.

Malawi does not have a comparative advantage in growing maize, so some argue that trade policies that allow for efficient and timely transportation of maize are best. As mentioned, current yields result in chronic deficits (Devereux 2002). Maize is highly drought sensitive, and given Malawi's agroclimatic conditions, other crops, such as millet, sorghum, cassava, rice, and potatoes, might produce higher yields. These crops, however, may not be socially acceptable, and they lack markets and processing facilities (Mano et al. 2003).

Countries with liberal trade policies appear better able to close food gaps through trade than those in which the government is most involved (Sahley et al. 2005). Regional trade possibilities exist with Mozambique, Tanzania, Zambia, and Zimbabwe. Mozambique does not suffer the same land degradation or import-export parity that Malawi does, so a trade relationship with that country could help smooth Malawi's markets (RATES 2003). If infrastructure for the maize market between the two countries is improved, the tobacco market, Malawi's largest export income earner, could benefit from spillover effects. In 2002 and 2003, high volumes of cross-border trade improved the availability of maize.

Regional trade could also benefit Malawi. The region's large size and agroecological and climatic variation all but guarantee adequate production, which could be traded, in part of the region each year (Mano et al. 2003). In some areas it may be more economically beneficial to trade across borders than domestically, given weak infrastructure. Northern Mozambique and southern Tanzania are both areas of surplus production and could be reliable grain sources.

Socioeconomic development to reduce livelihood vulnerability. According to Wiggins (2005, 8), "Widespread poverty translates into vulnerability; poor households have fewer assets and restricted options to cope with shocks." To combat this vulnerability, multisector development programs are needed to raise incomes of the poor, stabilize food sources and inputs, address HIV/AIDS, provide education, and promote off-farm employment.

In 2003 there were 84,000 AIDS deaths in Malawi; the HIV prevalence rate is 14.2 percent for adults (UNAIDS). The effects of HIV/AIDS on food

security are threefold: it affects farm production and incomes, it undercuts the ability of households to cope with shocks, and it affects national economies and governments. Most studies conclude that labor-saving techniques and diversification of food production and income are essential for farmers and farm households affected by HIV/AIDS.

Assignment

Assess the effectiveness of the actions taken by the government of Malawi in 2002, identify policy failures and successes, and suggest actions and policy measures that should be put in place by the government, food aid donors, and the private sector to effectively prevent future famine while striving for long-term national food sovereignty and household food security.

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